Fig. 1

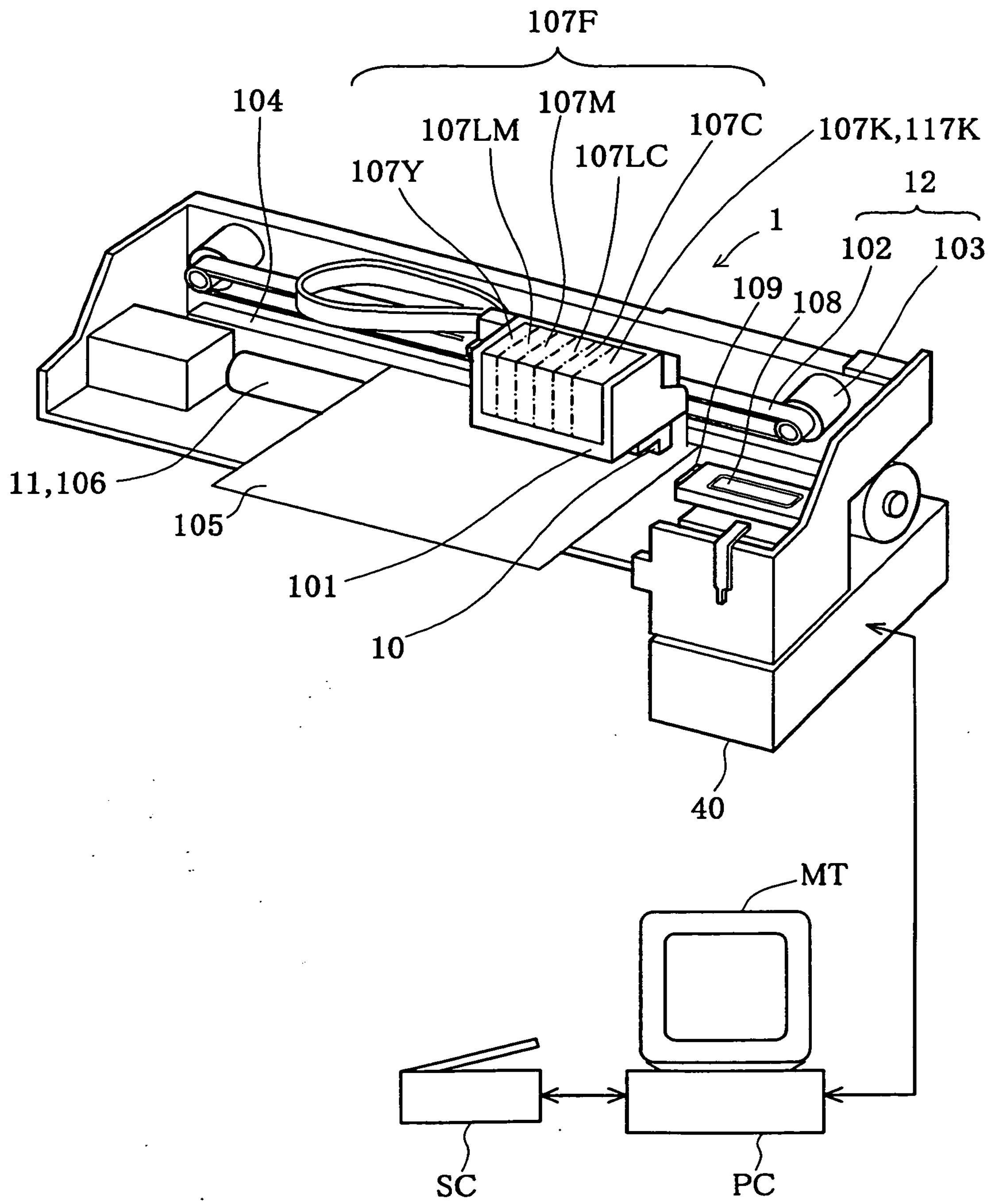
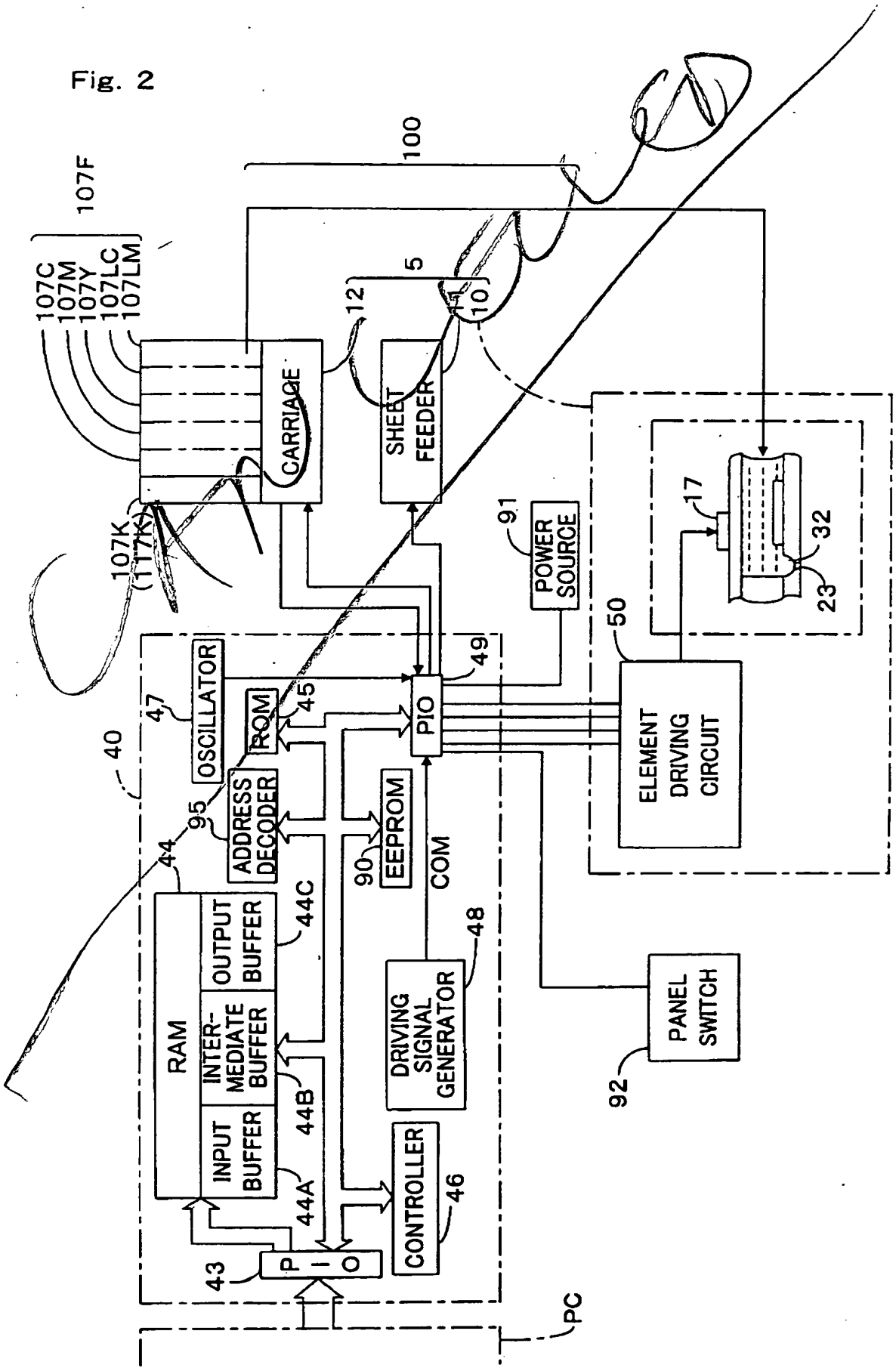

107F
104
107M
107LM
107C
107K,117K
107LC
107Y
12
1
102
103
109
108
11,106
105
101
10
40
MT
SC
PC

Fig. 2



APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

Fig. 3

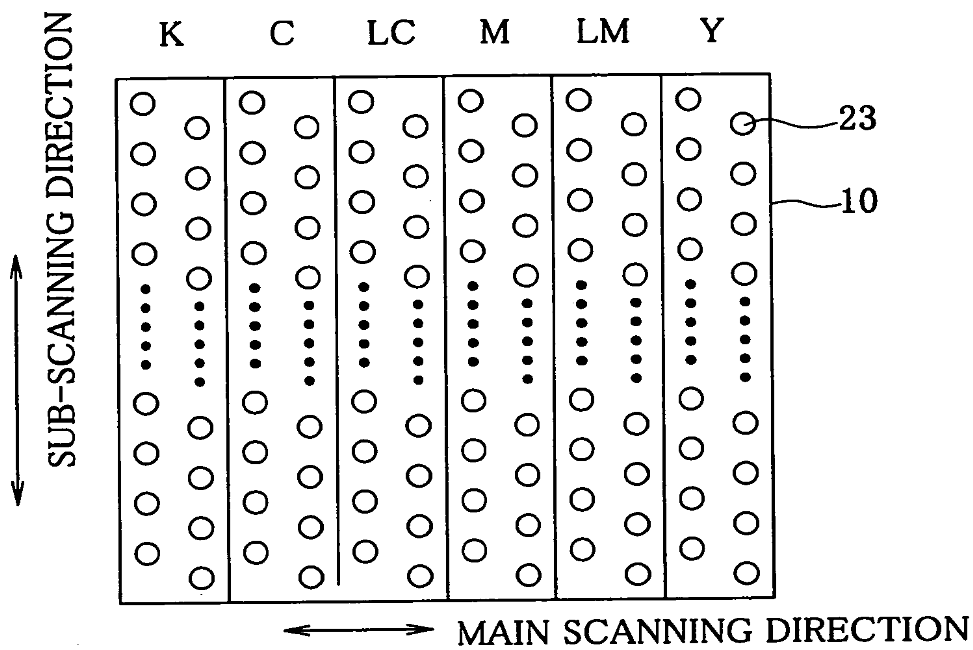


Fig. 4A

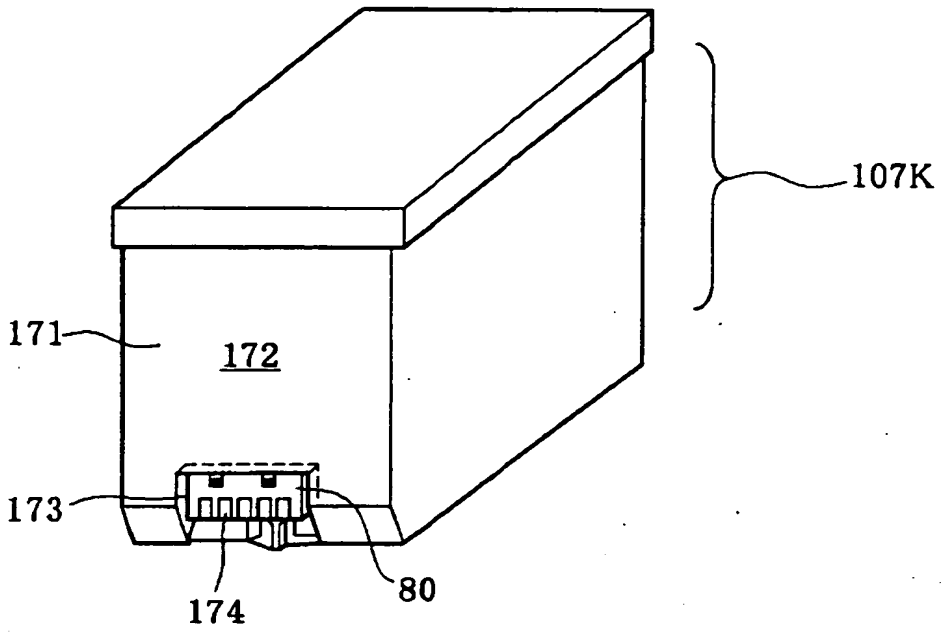


Fig. 4B

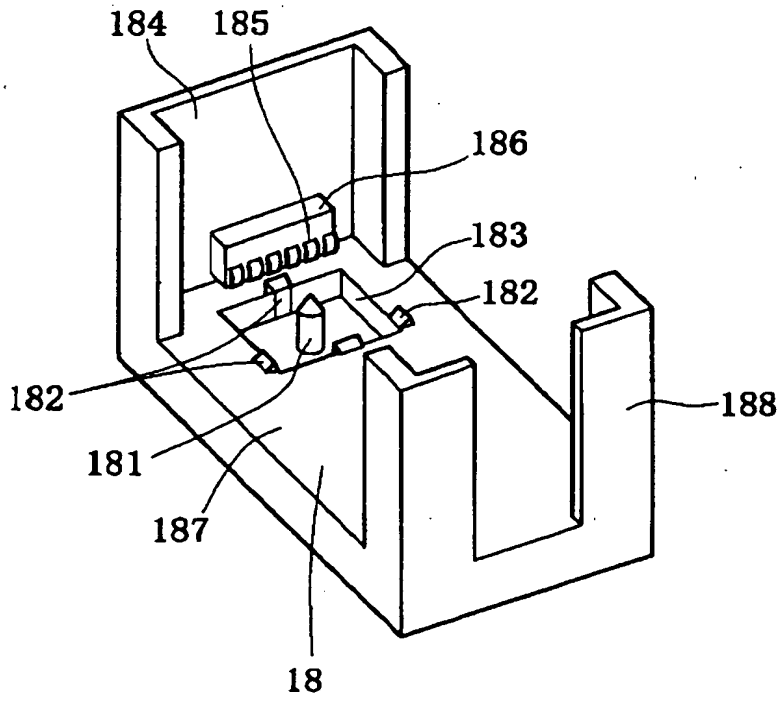
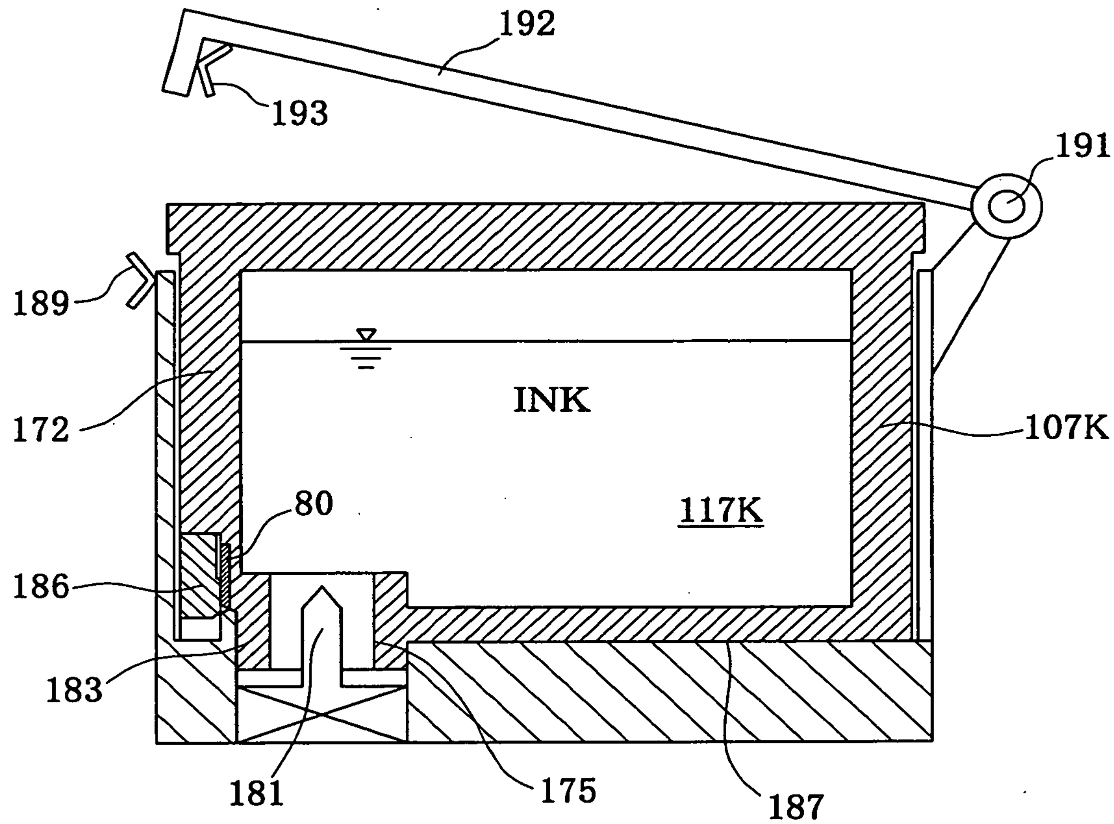


Fig. 5



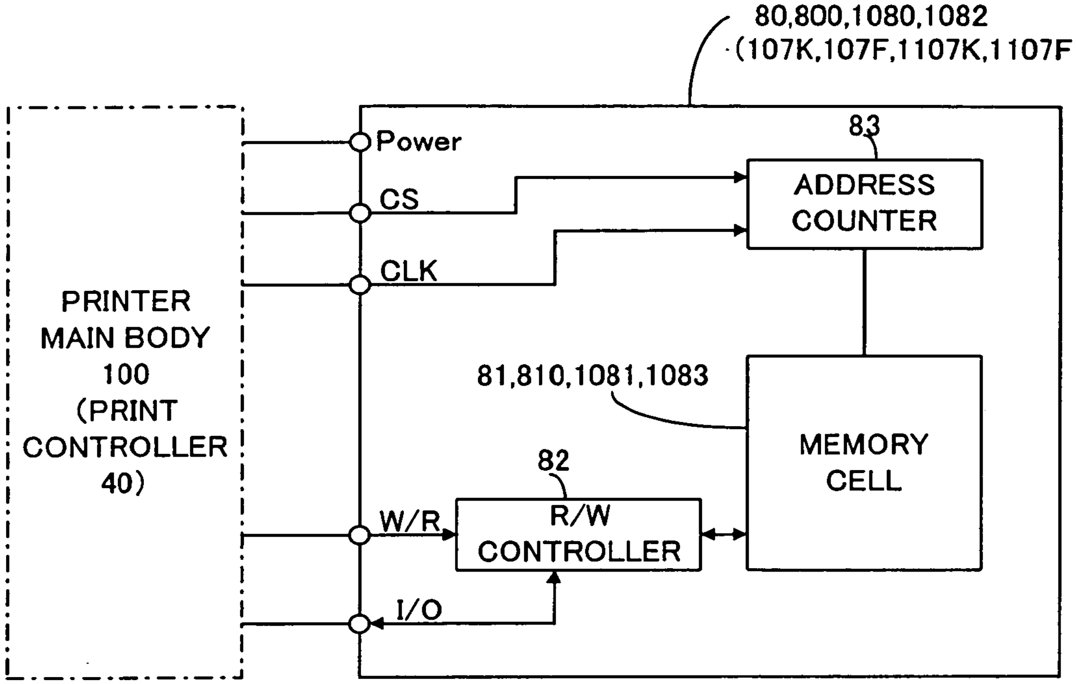


Fig.6

80, 107K

	Contents of Information	
701	1st Data on remaining quantity of black ink	760
702	2nd Data on remaining quantity of black ink	760
711	Data on unsealed time (year)	750
712	Data on unsealed time (month)	750
713	Version data of ink cartridge	750
714	Data on type of ink	750
715	Data on year of manufacture	750
716	Data on month of manufacture	750
717	Data on date of manufacture	750
718	Data on production line	750
719	Serial number data	750
720	Data on recycle	750

Fig. 7

80, 107F

	Contents of Information
601	1st Data on remaining quantity of cyan ink
602	2nd Data on remaining quantity of cyan ink
603	1st Data on remaining quantity of magenta ink
604	2nd Data on remaining quantity of magenta ink
605	1st Data on remaining quantity of yellow ink
606	2nd Data on remaining quantity of yellow ink
607	1st Data on remaining quantity of light cyan ink
608	2nd Data on remaining quantity of light cyan ink
609	1st Data on remaining quantity of light magenta ink
610	2nd Data on remaining quantity of light magenta ink
611	Data on unsealed time (year)
612	Data on unsealed time (month)
613	Version data of ink cartridge
614	Data on type of ink
615	Data on year of manufacture
616	Data on month of manufacture
617	Data on date of manufacture
618	Data on production line
619	Serial number data
620	Data on recycle

660 (rows 601–610)

650 (rows 611–620)

Fig. 8

90, 100

	Contents of Information
901	Data on remaining quantity of black ink
902	Data on unsealed time (year)
903	Data on unsealed time (month)
904	Version data of ink cartridge
905	Data on type of ink
906	Data on year of manufacture
907	Data on month of manufacture
908	Data on date of manufacture
909	Data on production line
910	Serial number data
911	Data on recycle
921	Data on remaining quantity of cyan ink
922	Data on remaining quantity of magenta ink
923	Data on remaining quantity of yellow ink
924	Data on remaining quantity of light cyan ink
925	Data on remaining quantity of light magenta ink
926	Data on unsealed time (year)
927	Data on unsealed time (month)
928	Version data of ink cartridge
929	Data on type of ink
930	Data on year of manufacture
931	Data on month of manufacture
932	Data on date of manufacture
933	Data on production line
934	Serial number data
935	Data on recycle

Fig. 9

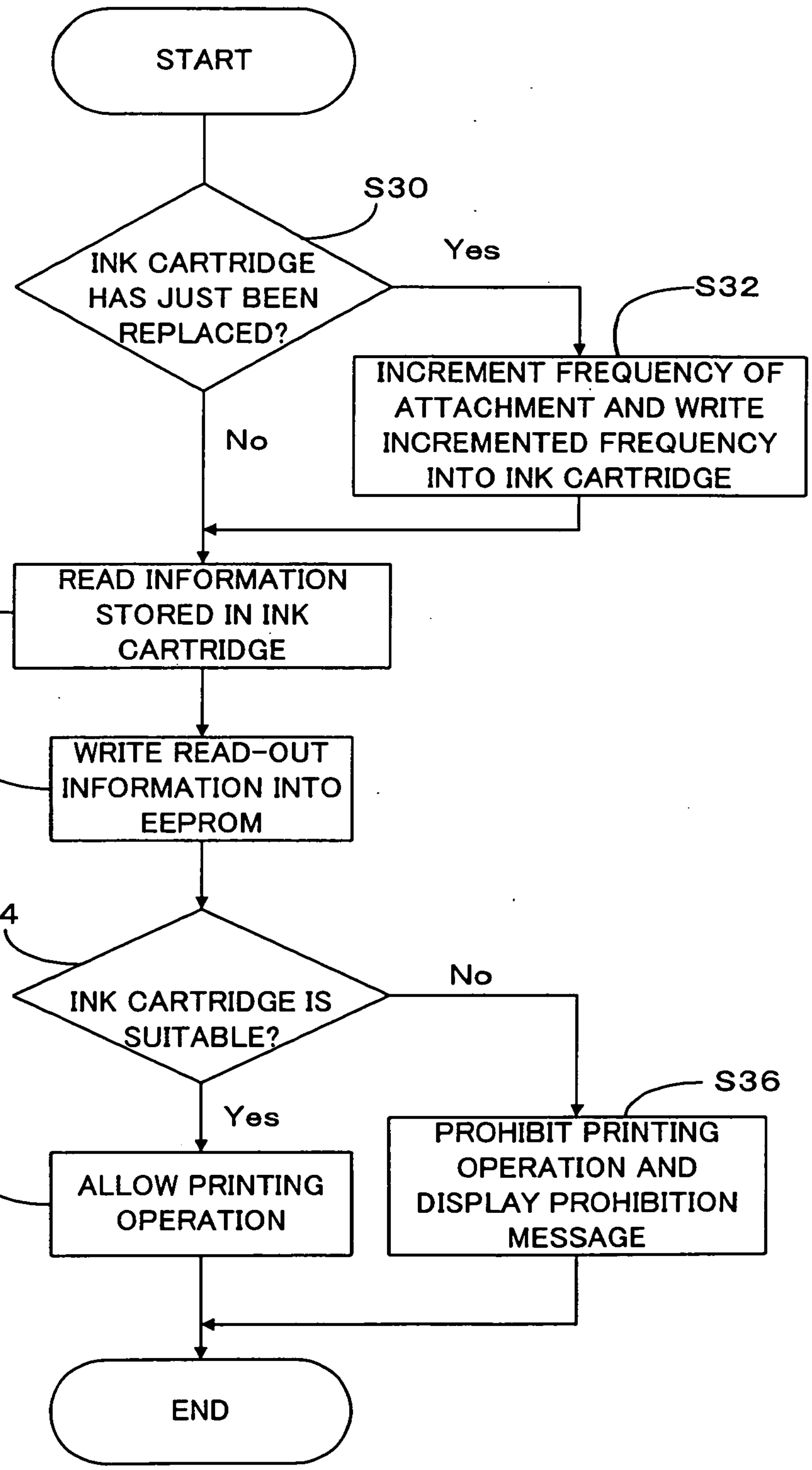


Fig. 10

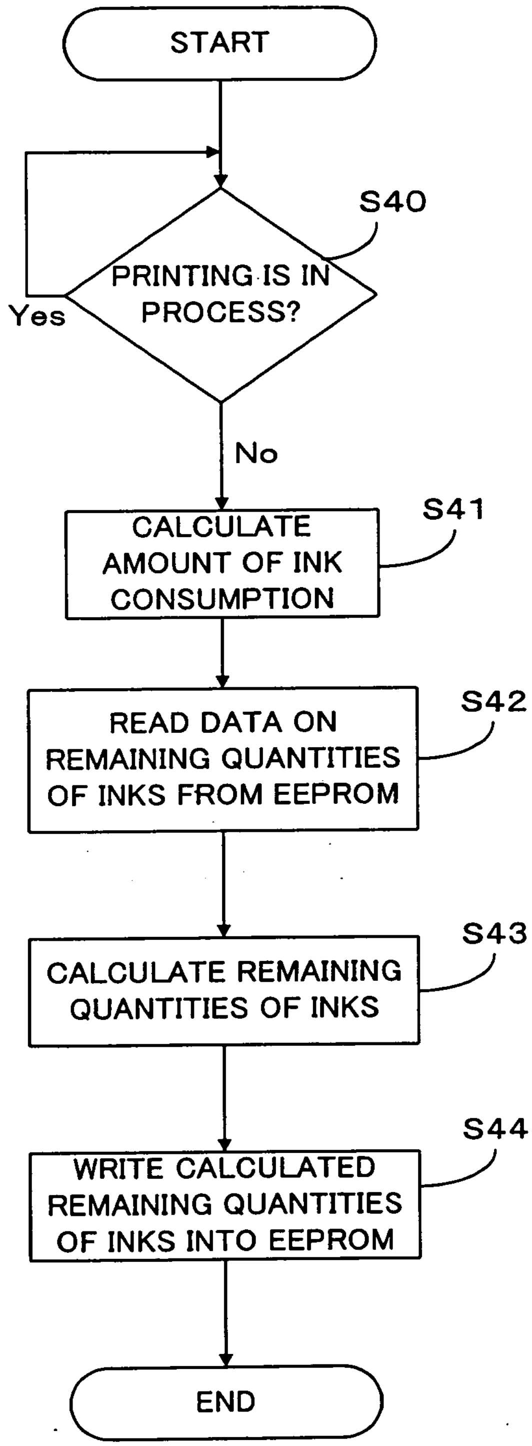


Fig. 11

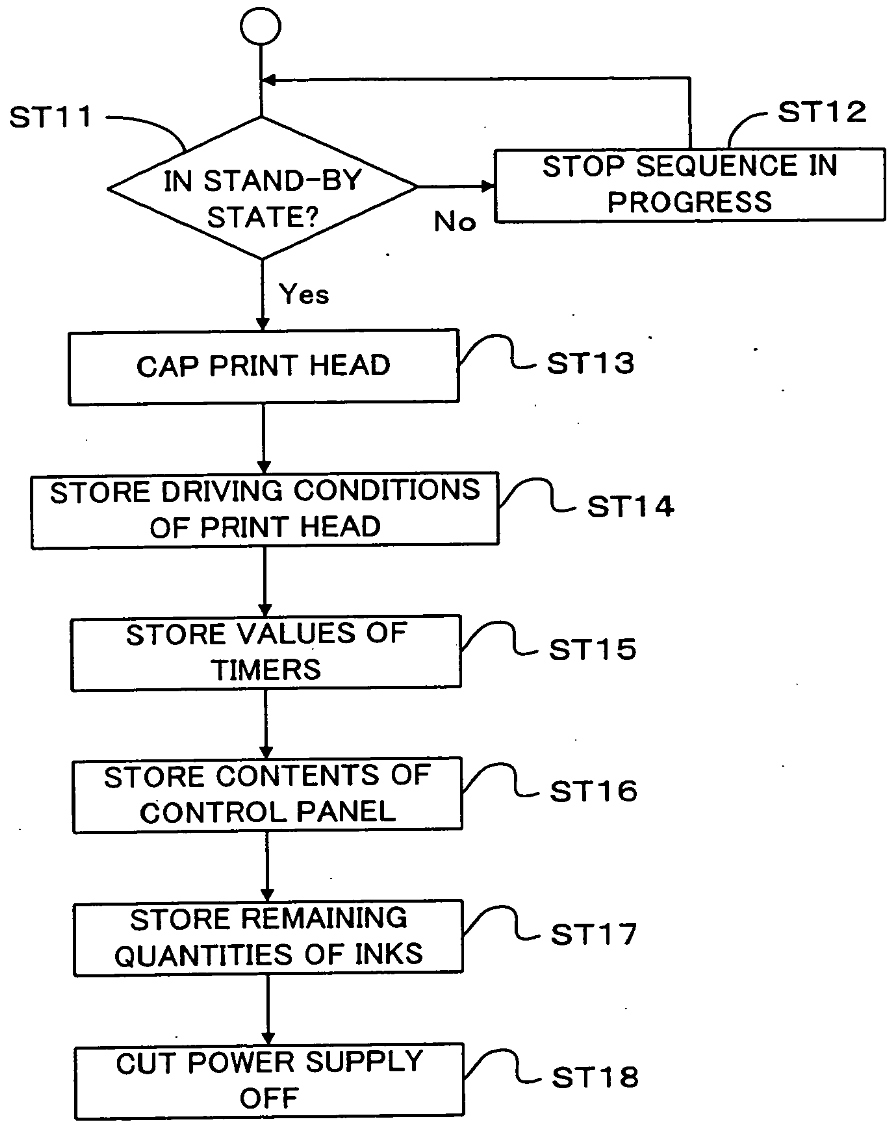

ST11
IN STAND-BY STATE?
No
STOP SEQUENCE IN PROGRESS
ST12
Yes
CAP PRINT HEAD
ST13
STORE DRIVING CONDITIONS OF PRINT HEAD
ST14
STORE VALUES OF TIMERS
ST15
STORE CONTENTS OF CONTROL PANEL
ST16
STORE REMAINING QUANTITIES OF INKS
ST17
CUT POWER SUPPLY OFF
ST18

Fig. 12

Fig. 13A

WRITING PROCESS FOR REMAINING QUANTITIES OF INKS

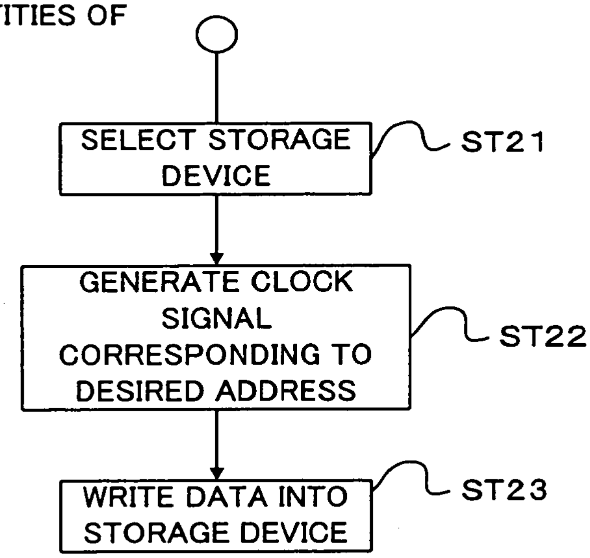


Fig. 13B

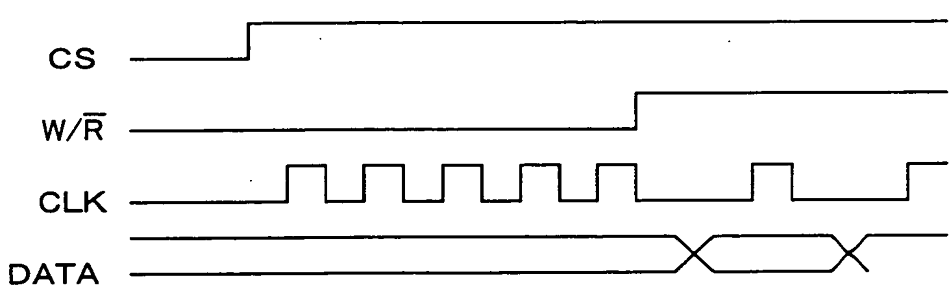


Fig. 14A

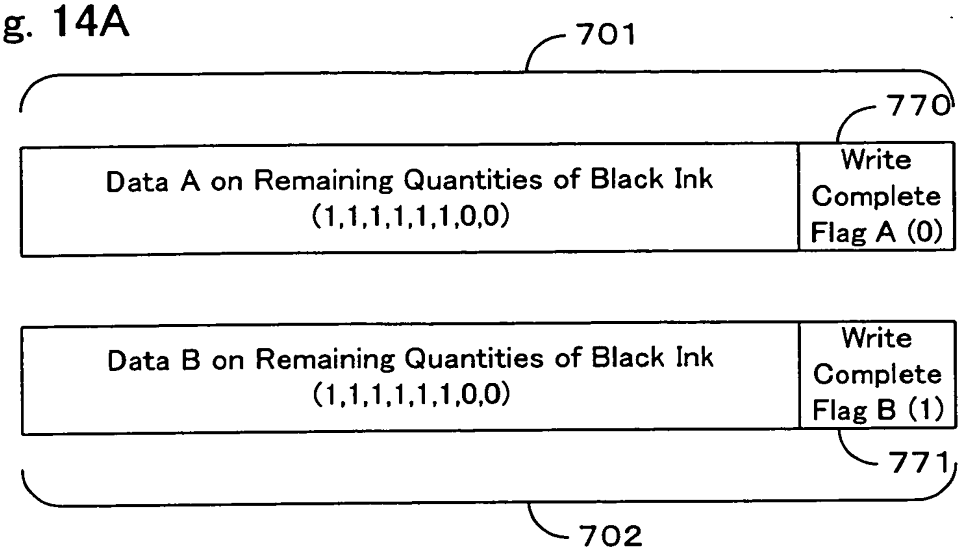


Fig. 14B

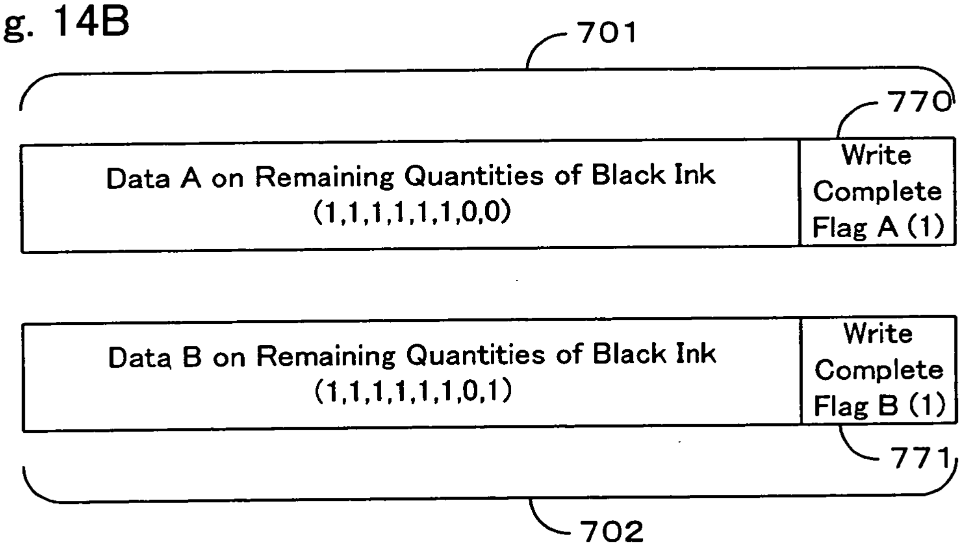


Fig. 14C

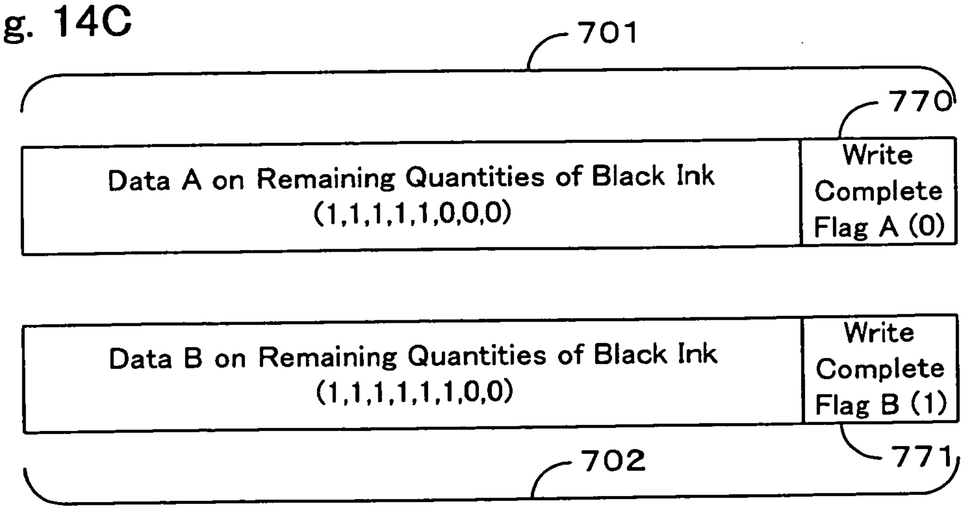


Fig. 15A

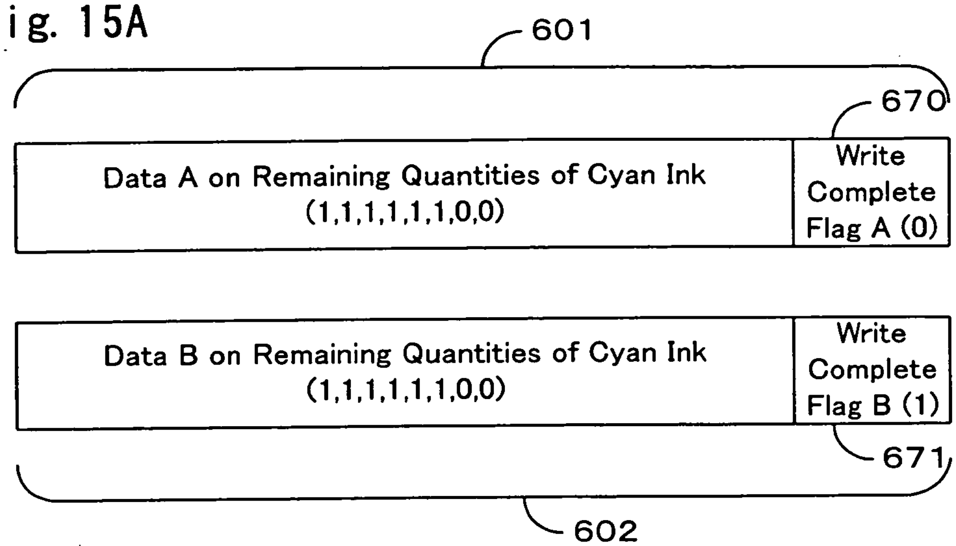


Fig. 15B

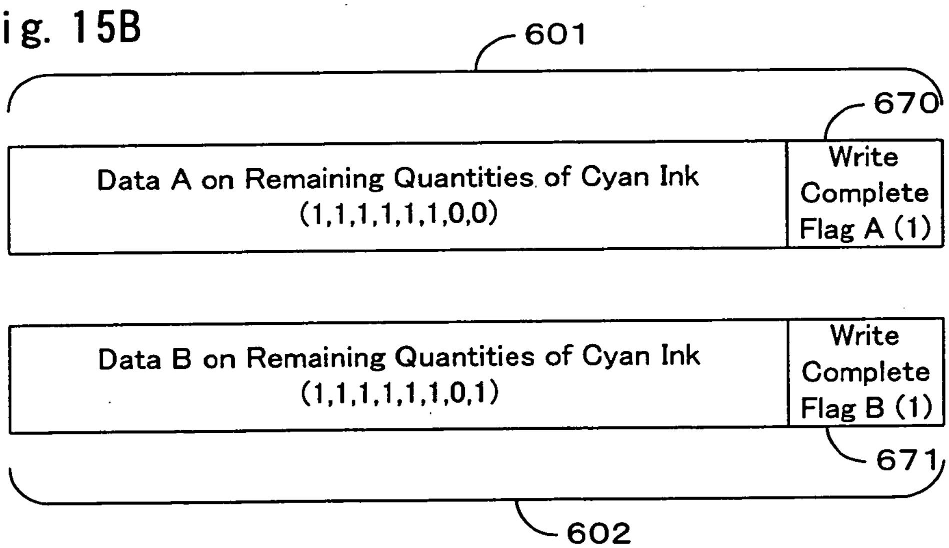
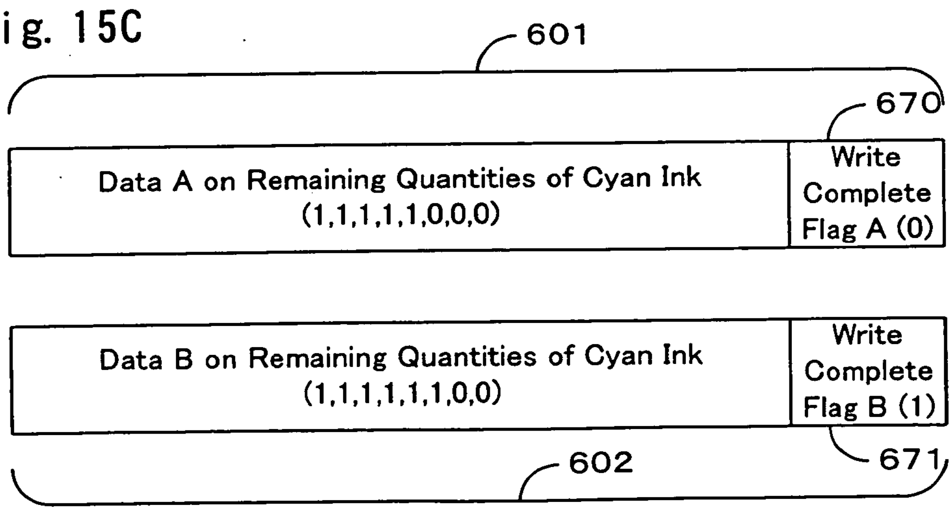


Fig. 15C



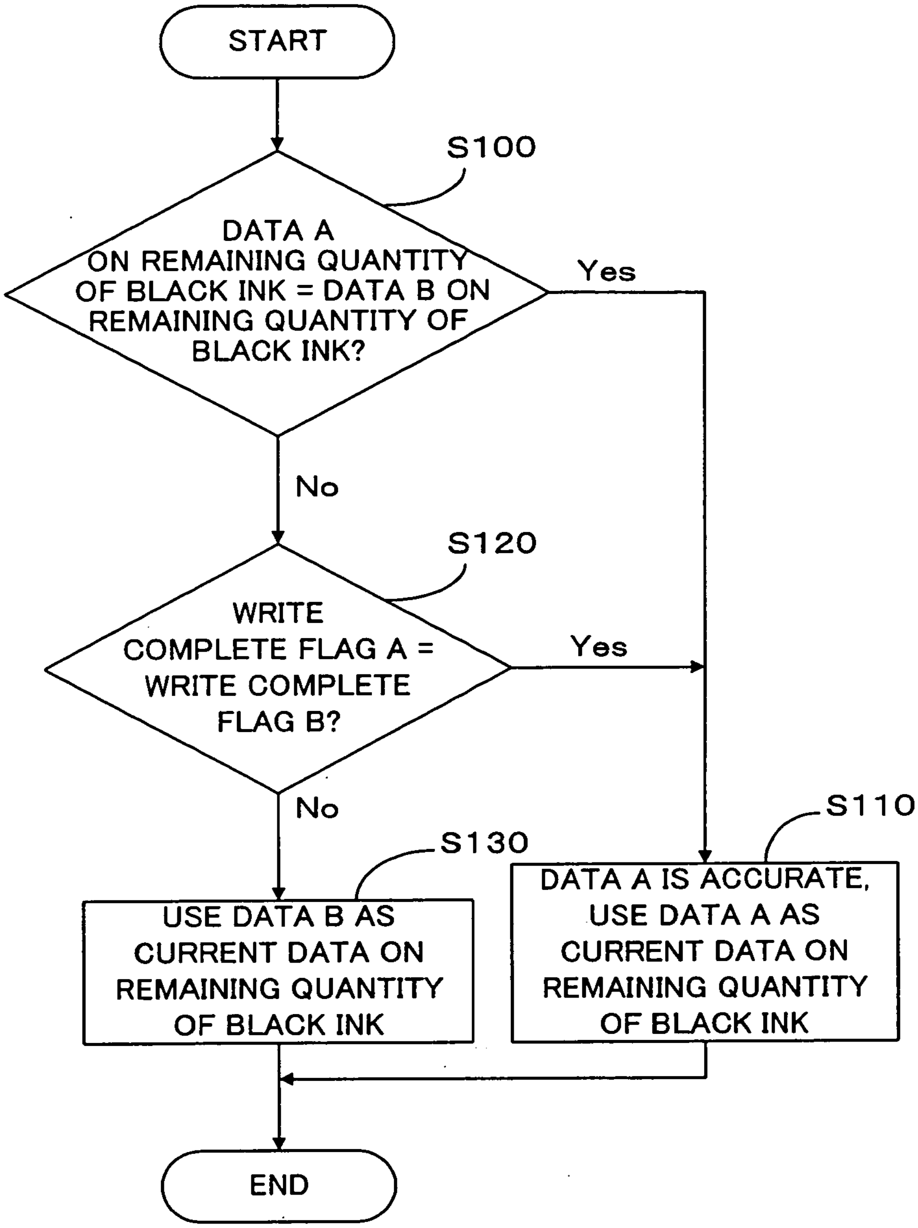


Fig.16

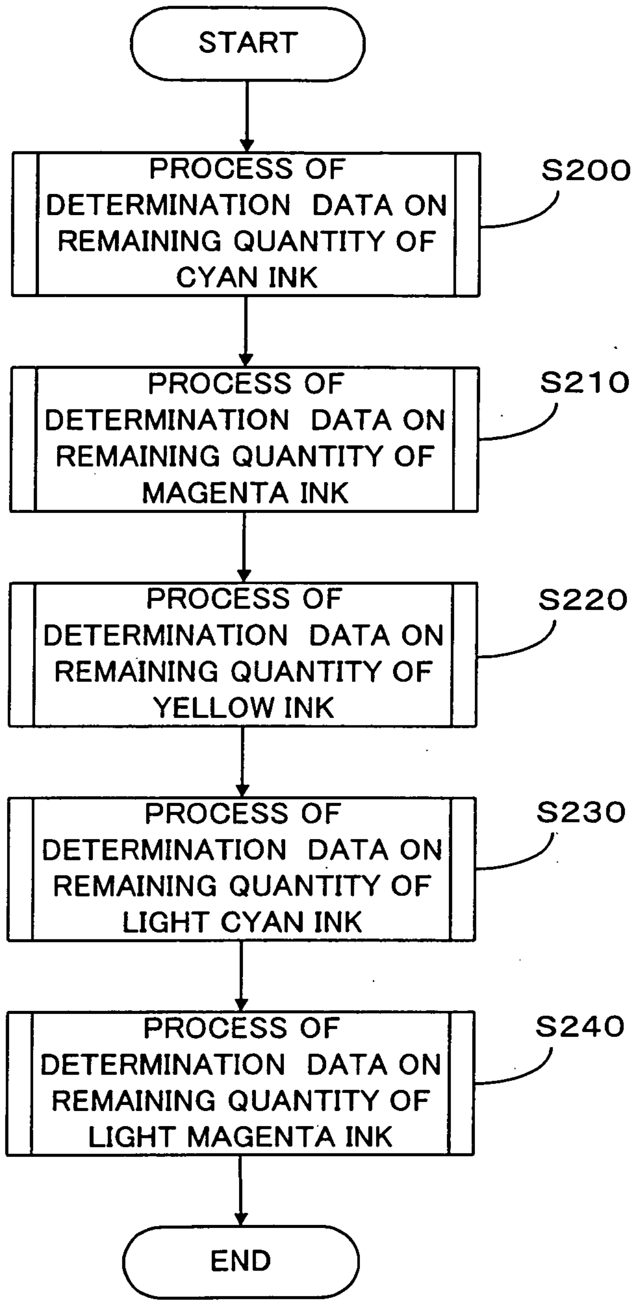


Fig. 17

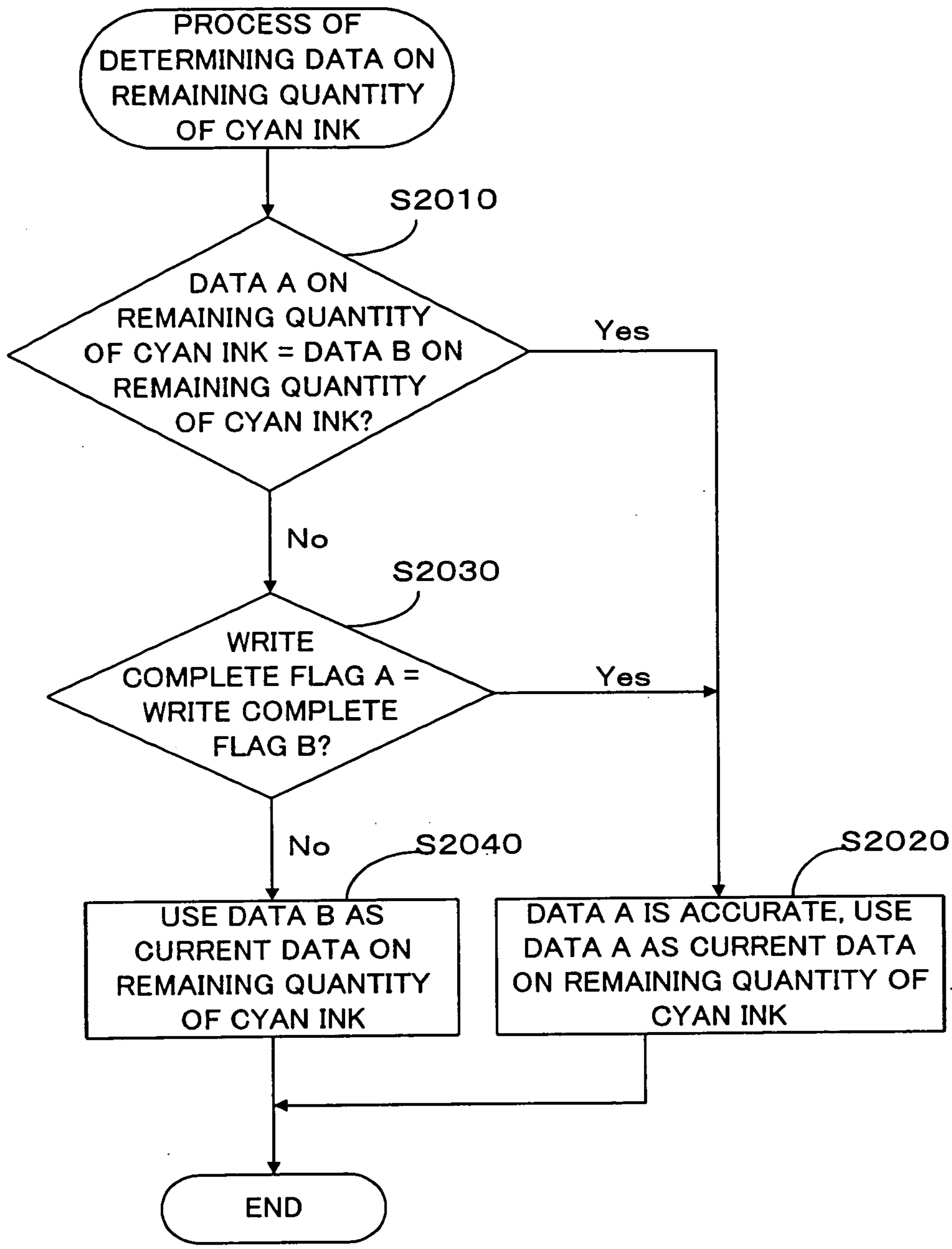


Fig.18

800 (810)

	Contents of Information
801	1st Data on remaining quantity of cyan ink
802	1st Data on remaining quantity of magenta ink
803	1st Data on remaining quantity of yellow ink
804	1st Data on remaining quantity of light cyan ink
805	1st Data on remaining quantity of light magenta ink
870	Write complete flag A
806	2nd Data on remaining quantity of cyan ink
807	2nd Data on remaining quantity of magenta ink
808	2nd Data on remaining quantity of yellow ink
809	2nd Data on remaining quantity of light cyan ink
810	2nd Data on remaining quantity of light magenta ink
871	Write complete flag B
811	Data on unsealed time (year)
812	Data on unsealed time (month)
813	Version data of ink cartridge
814	Data on type of ink
815	Data on year of manufacture
816	Data on month of manufacture
817	Data on date of manufacture
818	Data on production line
819	Serial number data
920	Data on recycle

860 (rows 801–871)

850 (rows 811–920)

Fig. 19

Fig.20A

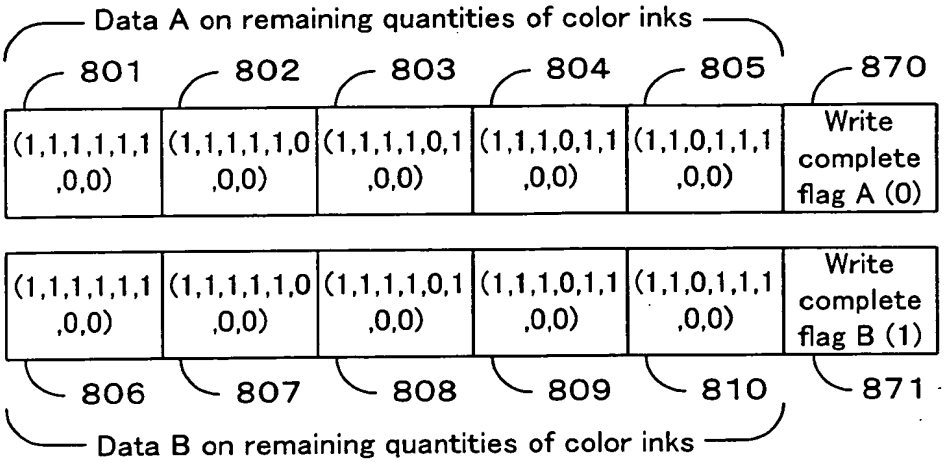


Fig.20B

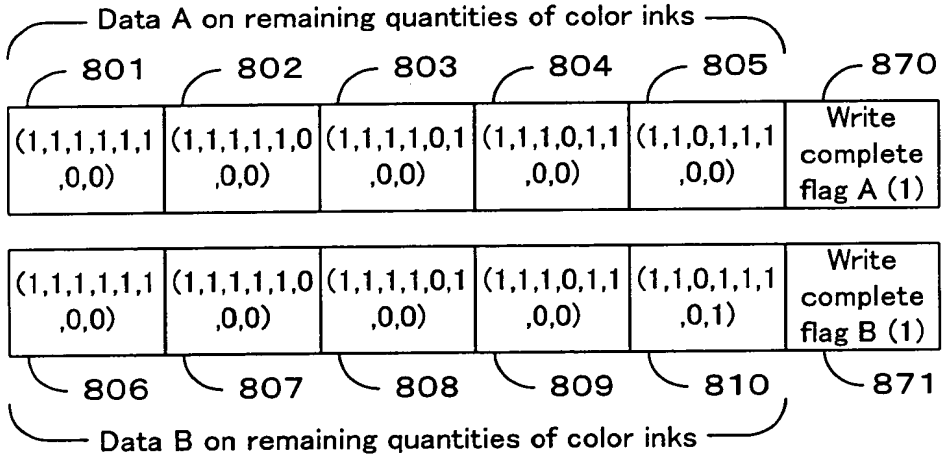
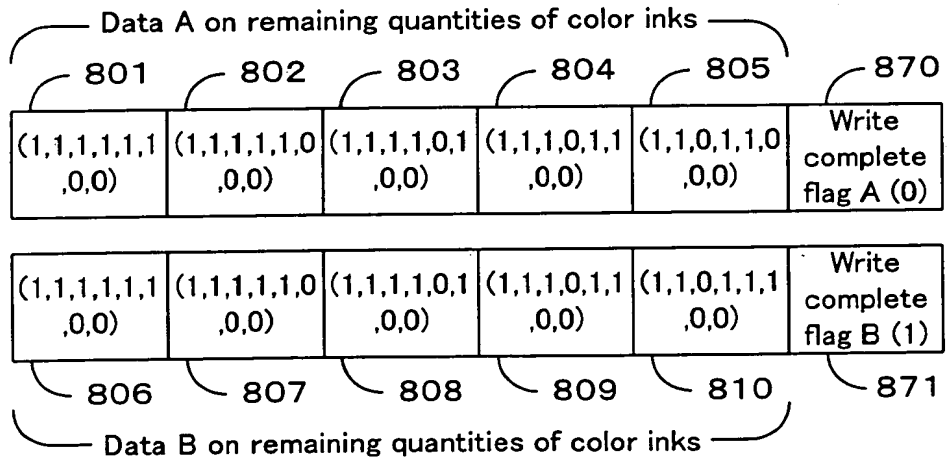


Fig.20C



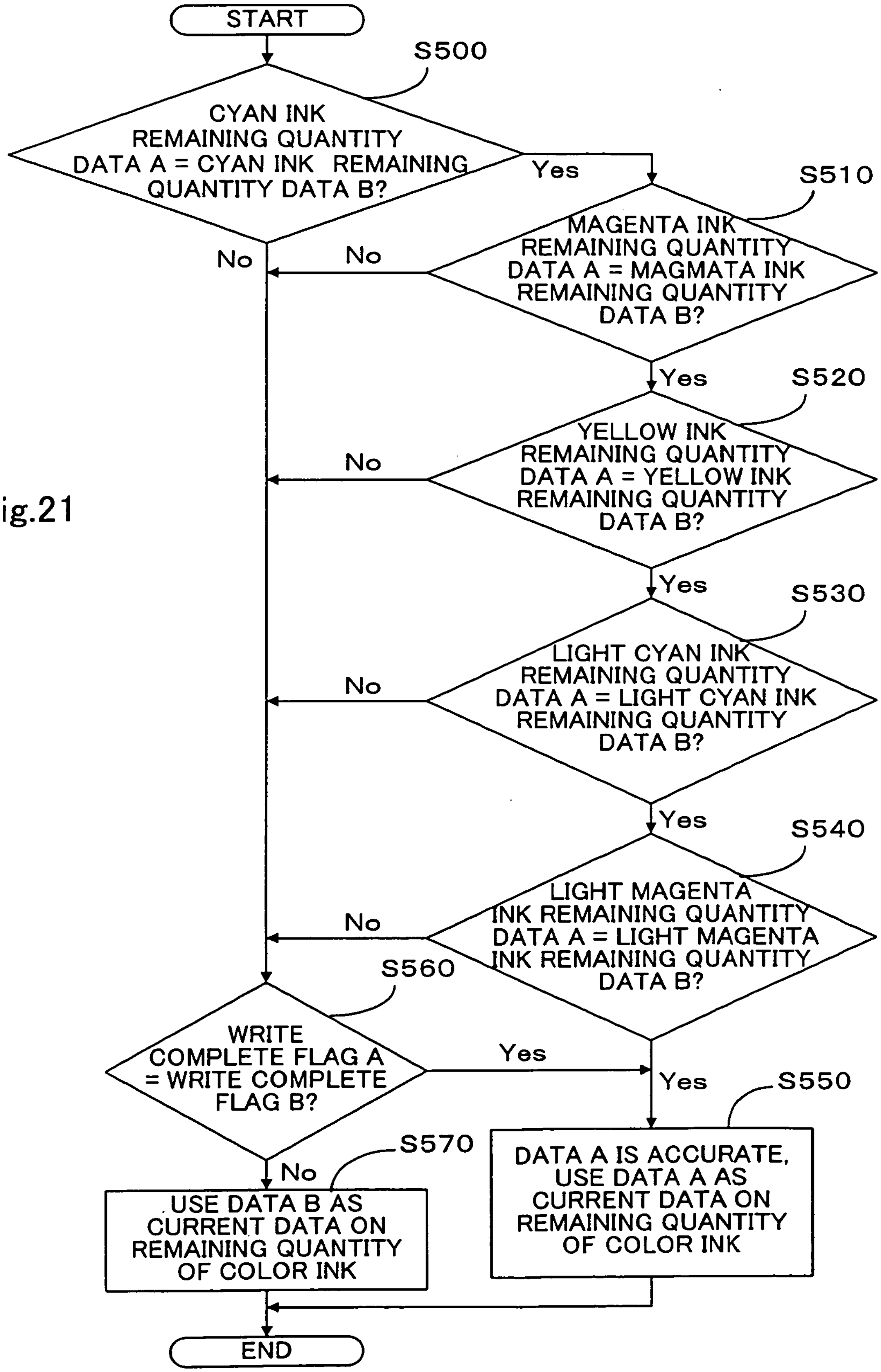


Fig.21

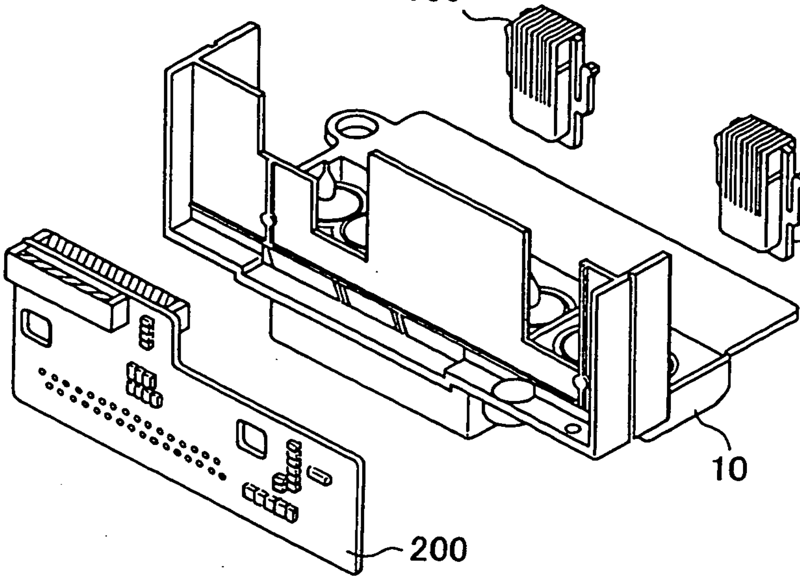
Address of Control IC 200	Data Length (byte)	Items of Information	Address of Storage Element 1080	Capacity (bit) in Storage Element
00	1	Remaining quantity of black ink	00	8
01	1	Frequency of cleaning	08	8
02	1	Frequency of attachment	10	8
03	2	Total time period of attachment	18	16
05	1	Year of manufacture	28	7
06	1	Month of manufacture	2F	4
07	1	Date of manufacture	33	5
08	1	Hour of manufacture	38	5
09	1	Minute of manufacture	3D	6
0A	1	Production serial No.	43	8
0B	1	Frequency of recycle	4B	3
0C	2	Ink cartridge name	4E	10
0E	1	Ink type	58	8
0F	1	Term of validity	60	6
10	1	Term of validity after unsealed	66	5

Fig.22

Address of Control IC 200	Data Length (byte)	Items of Information	Address of Storage Element 1082	Capacity (bit) in Storage Element
20	1	Remaining quantity of cyan ink	00	8
21	1	Remaining quantity of magenta ink	08	8
22	1	Remaining quantity of yellow ink	10	8
23	1	Remaining quantity of light cyan ink	18	8
24	1	Remaining quantity of light magenta	20	8
25	1	Frequency of cleaning	28	8
26	1	Frequency of attachment	30	8
27	2	Total time period of attachment	38	16
29	1	Year of manufacture	48	7
2A	1	Month of manufacture	4F	4
2B	1	Date of manufacture	53	5
2C	1	Hour of manufacture	58	5
2D	1	Minute of manufacture	5D	6
2E	1	Production serial No.	63	8
2F	1	Frequency of recycle	6B	3
30	2	Ink cartridge name	6E	10
32	1	Ink type	78	8
33	1	Term of validity	80	6
34	1	Term of validity after unsealed	86	5

Fig. 23

Fig. 24



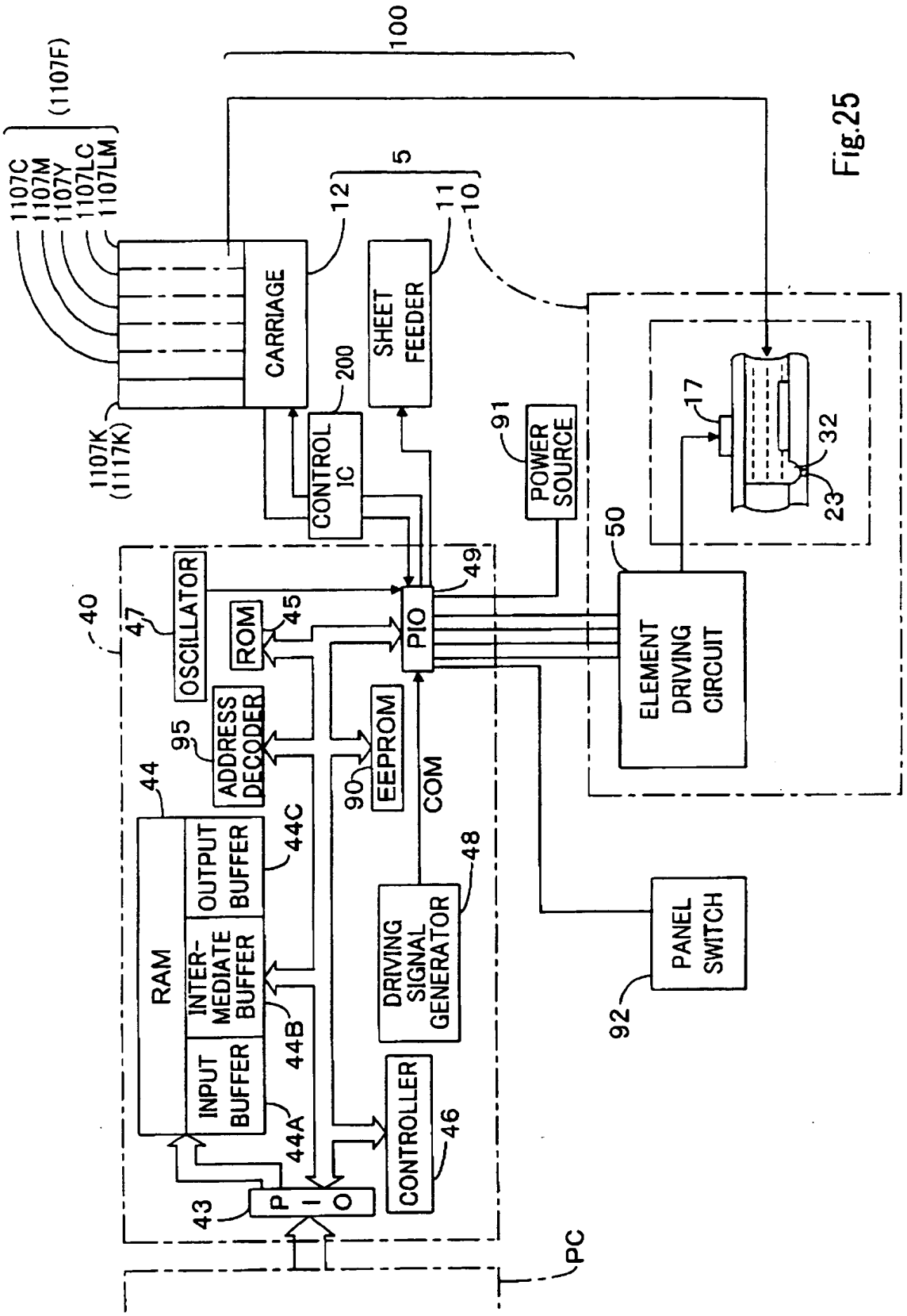


Fig.25

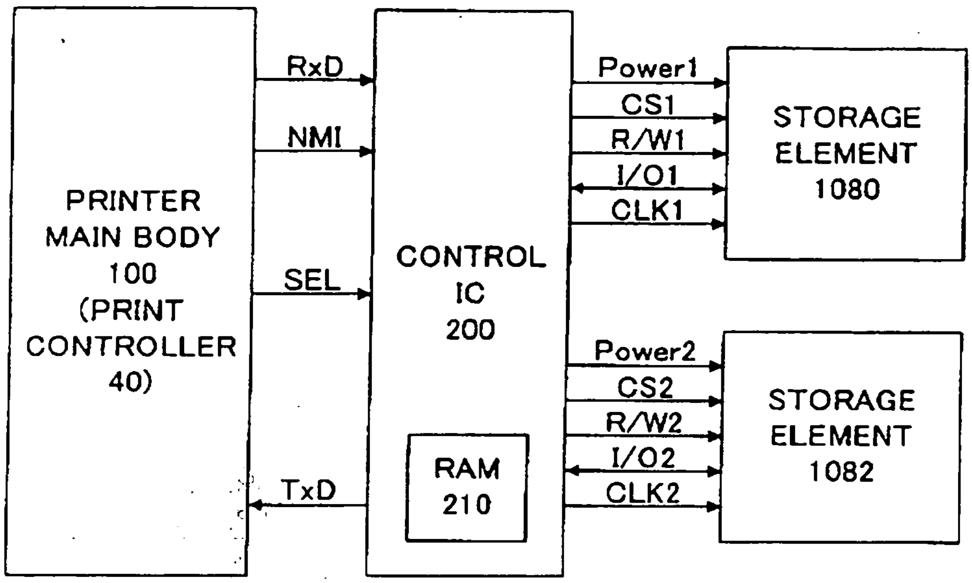
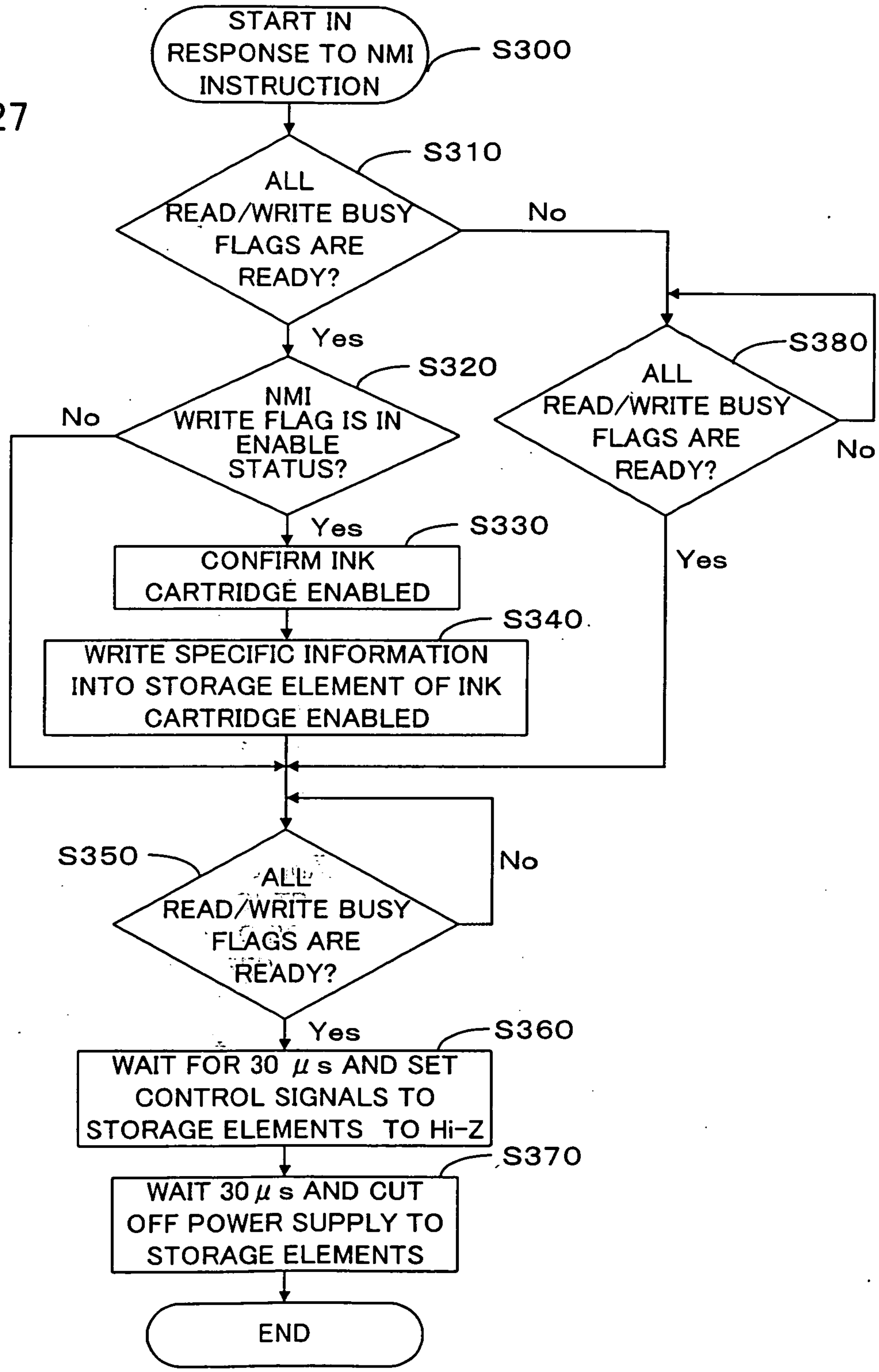

PRINTER
MAIN BODY
100
(PRINT
CONTROLLER
40)
RxD
NMI
SEL
TxD
CONTROL
IC
200
RAM
210
Power1
CS1
R/W1
I/O1
CLK1
STORAGE
ELEMENT
1080
Power2
CS2
R/W2
I/O2
CLK2
STORAGE
ELEMENT
1082

Fig.26

Fig.27


START IN RESPONSE TO NMI INSTRUCTION
S300
ALL READ/WRITE BUSY FLAGS ARE READY?
S310
No
Yes
NMI WRITE FLAG IS IN ENABLE STATUS?
S320
No
Yes
CONFIRM INK CARTRIDGE ENABLED
S330
WRITE SPECIFIC INFORMATION INTO STORAGE ELEMENT OF INK CARTRIDGE ENABLED
S340
ALL READ/WRITE BUSY FLAGS ARE READY?
S380
No
Yes
ALL READ/WRITE BUSY FLAGS ARE READY?
S350
No
Yes
WAIT FOR 30 μs AND SET CONTROL SIGNALS TO STORAGE ELEMENTS TO Hi-Z
S360
WAIT 30 μs AND CUT OFF POWER SUPPLY TO STORAGE ELEMENTS
S370
END

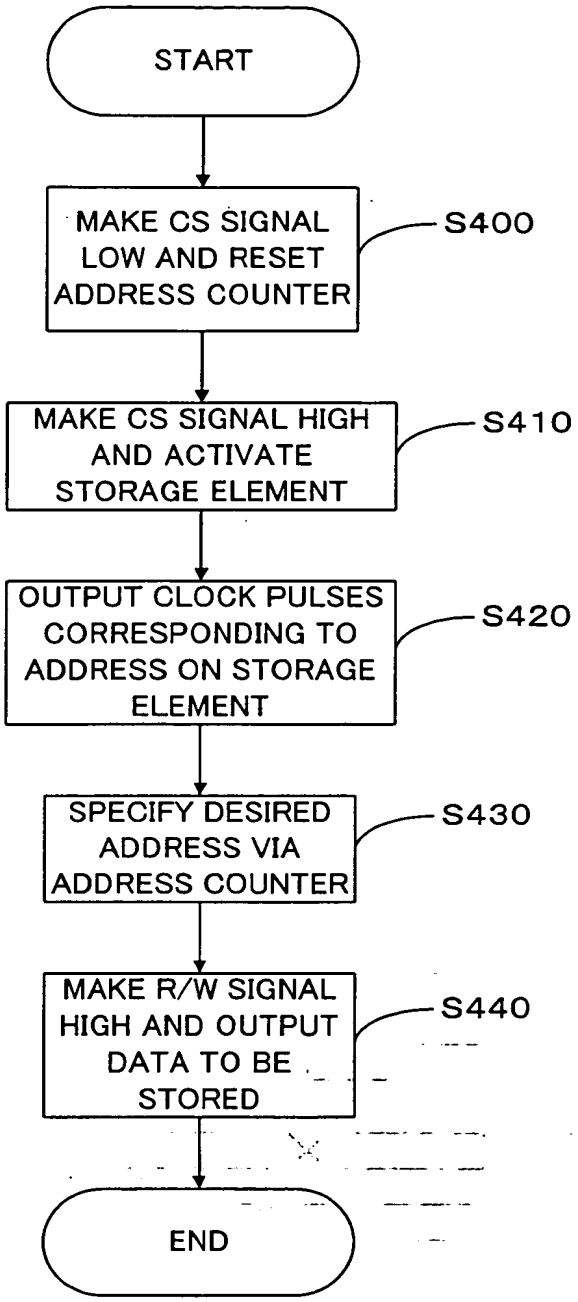


Fig.28

Fig.29

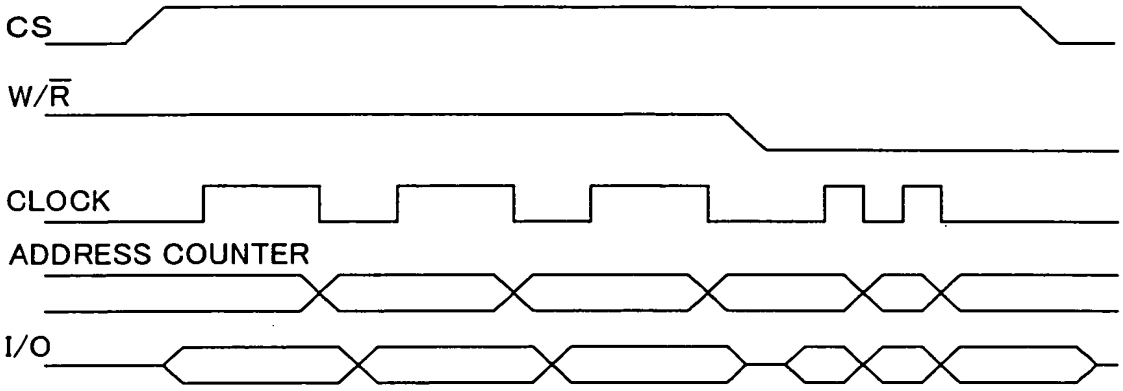
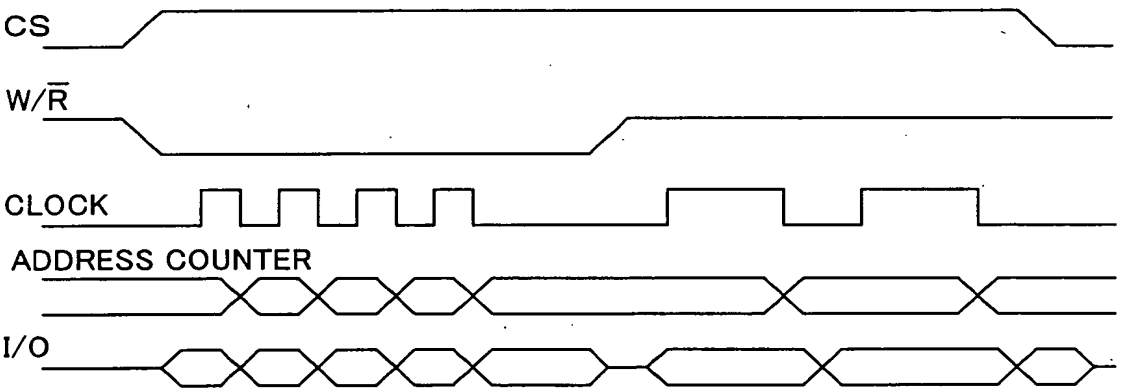


Fig.30



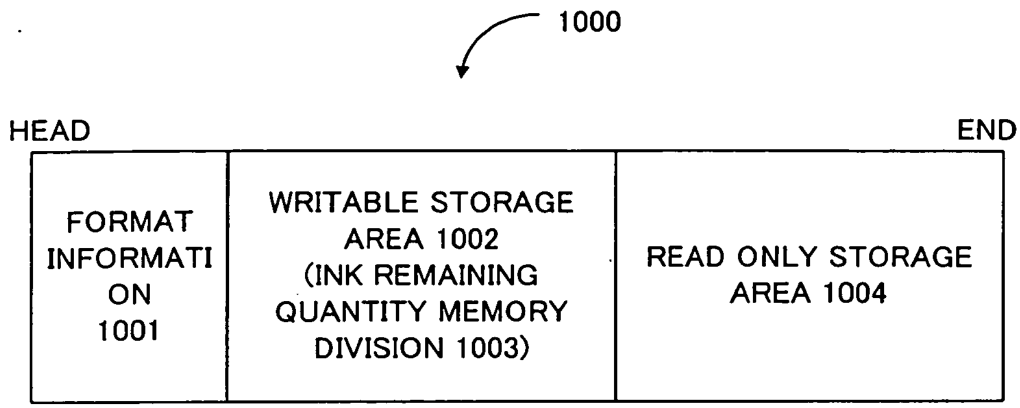


Fig.31

Fig. 32